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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		09928737
	Filing Date		2001-08-13
	First Named Inventor	QUAN, SON KY	
	Art Unit	2831	
	Examiner Name	NGO, HUNG V.	
Attorney Docket Number		SC09785T-CD1	

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/HN/	1	4871317		1989-10-03	JONES	
/HN/	2	4887352		1989-12-19	ADAMS	
/HN/	3	5261962		1993-11-16	HAMAMOTO et al.	
/HN/	4	5316965		1994-05-31	PHILIPPOSIAN et al.	
/HN/	5	5334857		1994-08-02	MENNITT et al.	
/HN/	6	5371404		1994-12-06	JUSKEY et al.	
/HN/	7	5525834		1996-06-11	FISCHER et al.	
/HN/	8	5172214		1992-12-15	CASTO	

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/HN/	9	5336931	1994-08-09	JUSKEY et al	
/HN/	10	3913217	1975-10-21	MISAWA et al	
/HN/	11	4508758	1985-04-02	WONG	
/HN/	12	4518631	1985-05-21	ANTONEN	
/HN/	13	4595647	1986-06-17	SPANJER	
/HN/	14	4654290	1987-03-31	SPANJER	
/HN/	15	4674811	1987-06-23	CORWIN	
/HN/	16	4703984	1987-11-03	MITCHELL, JR.	
/HN/	17	4734820	1988-03-29	LAUFFER et al	
/HN/	18	4737395	1988-04-12	MABUCHI et al	
/HN/	19	4773955	1988-09-27	MABUCHI et al	

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/HN/	20	4808990		1989-02-28	KAMIGAKI et al	
/HN/	21	4821007		1989-04-11	FIELDS et al	
/HN/	22	4866841		1989-09-19	HUBBARD	
/HN/	23	4870474		1989-09-26	KARASHIMA	
/HN/	24	4930216		1990-06-05	NELSON	
/HN/	25	4994936		1991-02-19	HERNANDEZ	
/HN/	26	4999700		1991-03-12	DUNAWAY et al	
/HN/	27	5000689		1991-03-19	ISHIZUKA et al	
/HN/	28	5006673		1991-04-09	FREYMAN et al	
/HN/	29	5071375		1991-12-10	SAVAGE, JR.	
/HN/	30	5148265		1992-09-15	KHANDROS et al	

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/HN/	31	5153385		1992-10-06	JUSKEY et al	
/HN/	32	5216278		1993-06-01	LIN et al	
/HN/	33	5239198		1993-08-24	LIN et al	
/HN/	34	5251107		1993-10-05	TAKEMURA et al	
/HN/	35	5302101		1994-04-12	NISHIMURA	
/HN/	36	5335671		1994-08-09	CLEMENT	
/HN/	37	5338972		1994-08-16	NEGORO	
/HN/	38	5347159		1994-09-13	KHANDROS et al	
/HN/	39	5355283		1994-10-11	MARRS et al	
/HN/	40	5433822		1995-07-18	MIMURA et al	
/HN/	41	5435482		1995-07-25	VARIOT et	

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/HN/	42	5436203		1995-07-25	LIN	
/HN/	43	5446625		1995-08-29	URBISH et al	
/HN/	44	5467252		1995-11-14	NOMI et al	
/HN/	45	5467253		1995-11-14	HECKMAN et al	
/HN/	46	5468999		1995-11-21	LIN et al	
/HN/	47	5471368		1995-11-28	DOWNIE et al	
/HN/	48	5535101		1996-07-09	MILES et al	
/HN/	49	5541450		1996-07-30	JONES et al	
/HN/	50	5570505		1996-11-05	DOWNIE et al	
/HN/	51	5592025		1997-01-07	CLARK et al	
/HN/	52	5593926		1997-01-14	FUJIHIRA	

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/HN/	53	5612576		1997-03-18	WILSON et al	
/HN/	54	5635671		1997-06-03	FREYMAN et al	
/HN/	55	5639695		1997-06-17	JONES et al	
/HN/	56	5652185		1997-07-29	LEE	
/HN/	57	5679977		1997-10-21	KHANDROS et al	
/HN/	58	5685885		1997-11-11	KHANDROS et al	
/HN/	59	5729894		1998-03-24	ROSTOKER et al	
/HN/	60	5745986		1998-05-05	VARIOT et al	
/HN/	61	5848467		1998-12-15	KHANDROS et al	
/HN/	62	5926696		1999-07-20	BAXTER et al	
/HN/	63	5989937		1999-11-23	VARIOT et al	

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/HN/	64	6365432	B1	2002-04-02	FUKUTOMI et al	
/HN/	65	6465743	B1	2002-10-15	OWENS	

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/HN/	1	05-067694	JP		1993-03-19	SHIGEMI	English Abstract attached	<input type="checkbox"/>
/HN/	2	05-67705	JP		1993-03-19	KAZUHIKO et al.	English Abstract attached	<input type="checkbox"/>
/HN/	3	07-193162	JP		1995-07-28	AKIRO et al.	English Abstract attached	<input type="checkbox"/>
/HN/	4	08-125062	JP		1996-05-17	TAKASHI	English Abstract attached	<input type="checkbox"/>

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/HN/	5	08-153832	JP		1996-06-11	HIDEO et al.	English Abstract attached	<input type="checkbox"/>
/HN/	6	04-084452	JP		1992-03-17	MASAYUKI et al.	English Abstract attached	<input type="checkbox"/>
/HN/	7	950955414	JP		1993-03-05	KEISUKE	English Abstract attached	<input type="checkbox"/>
/HN/	8	06-283561	JP		1994-10-07	TAKESHI et al.	English Abstract attached	<input type="checkbox"/>
/HN/	9	62-009639	JP		1987-01-17	TSUNEO	English Abstract attached	<input type="checkbox"/>
/HN/	10	04254363	JP		1992-09-09	MASAKI et al	English Abstract attached	<input type="checkbox"/>
/HN/	11	05129517	JP		1993-05-25	SUP	English Abstract attached	<input type="checkbox"/>
/HN/	12	05190737	JP		1993-07-30	TAKAHARU	English Abstract attached	<input type="checkbox"/>
/HN/	13	05315515	JP		1993-11-26	KAZUHIRO	English Abstract attached	<input type="checkbox"/>
/HN/	14	06169051	JP		1994-06-14	NAOTO et al	English Abstract attached	<input type="checkbox"/>
/HN/	15	06216179	JP		1994-08-05	JUNICHI	English Abstract attached	<input type="checkbox"/>



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/HN/	16	56002656	JP		1981-01-12	HISASHI et al	English Abstract Only	<input type="checkbox"/>
/HN/	17	58134450	JP		1983-08-10	HAJIME et al	English Abstract Only	<input type="checkbox"/>
/HN/	18	61222151	JP		1986-10-02	KIMATA et al.	English Translation	<input checked="" type="checkbox"/>
/HN/	19	8222654	JP		1996-08-30	OWENS	English Abstract Attached	<input type="checkbox"/>
/HN/	20	9414213	WO		1994-06-23	FANUCCHI		<input type="checkbox"/>
/HN/	21	57194240	JP		1982-11-12		Japanese Only	<input type="checkbox"/>
/HN/	22	55-86342	JP		1980-06-30		Japanese Only	<input type="checkbox"/>

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/HN/	1	OWENS, NORMAN L., et al., "Ultra Small Package Development Application and Standardization", Surface Mount Process Technology for Ball Grid Array Packaging, Proceedings of SMI Congerence (1993)	<input type="checkbox"/>
/HN/	2	BANERJI, KINGSHUK, "Development of the slightly larger than IC carrier (SLICC)", NEPCON west '94, March 1994	<input type="checkbox"/>

Receipt date: 09/28/2010

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/HN/	3	VARDAMAN, E.J., "Ball Grid Array Packaging", Consulting Report, January (1994) Technology and Business Trends in BGA	<input type="checkbox"/>
/HN/	4	YIP, W., et al., "Electrical Performance of an Overmolded Pad Array Carrier (OMPAC)", 1993 International Electronics Packaging (IEPS) Conference Proceedings	<input type="checkbox"/>
/HN/	5	MAWER, ANDREW, "AN1231 Plastic Ball Grid Array (PBGA)" no date	<input type="checkbox"/>
/HN/	6	BOYD-MERRITT, R., "Moto Fields New Package Technology", Electronic Engineering Times No date	<input type="checkbox"/>
/HN/	7	COSTLOW, T., "Moto Pact Big for BGAs?", Electronic Engineering Times, August 2, 1993	<input type="checkbox"/>
/HN/	8	DARVEAUX, R., et al., "Fatigue Analysis of Flip Chip Assemblies Using Thermal Stress Simulations and a Coffin-Manson Relation", Proceedings of ECTC, 1991	<input type="checkbox"/>
/HN/	9	OWENS, NORMAN L., "Near-CSP Plastic Ball Grid Array" no date	<input type="checkbox"/>
/HN/	10	DARVEAUX, R., et al., "Constitutive Relations for Tin Based Solder Joints", IEEE Trans on CHMT, Vol. 15, No. 6, December 1992	<input type="checkbox"/>
/HN/	11	DARVEAUX, R., "Crack Initiation and Growth in Surface Mount Solder Joints", Proceedings ISHM 25th International Symposium on Microelectronics, Dallas, TX 1993	<input type="checkbox"/>
/HN/	12	DONLIN, M., "Packaging Innovations Help Engineers Break Free from Design Constraints", Computer Design, June 1993	<input type="checkbox"/>
/HN/	13	FREYMAN, B., et al., "Overmolded Plastic Pad Array Carriers (OMPAC): A Low Cost, High Interconnect Density IC Packaging Solution for Consumer and Industrial Electronics", Proceedings of the Technical Conference, 1991 ECTC	<input type="checkbox"/>

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Attorney Docket Number	SC09785T-CD1

/HN/	14	HATTAS, D., "BGAs Face Production Testing", Advanced Packaging, Summer 1993	<input type="checkbox"/>
/HN/	15	HOUGHTEN, J., "New Package Takes on QFP's", Advanced Packaging, Winter 1993	<input type="checkbox"/>
/HN/	16	JOHNSON, R., et al., "A Feasibility Study of Ball Grid Array Packaging", NEPCON East Proceedings, 1993	<input type="checkbox"/>
/HN/	17	JOHNSON, R., et al., "Thermal Characterization of 140 and 225 Pin Ball Grid Array Packages", NEPCON East Proceedings, 1993.	<input type="checkbox"/>
/HN/	18	LAU, J., et al., "No Clean Mass Reflow of Large Over Molded Plastic Pad Array Carriers (OMPAC)", 1993 IEEE/CHMT International Electronics Manufacturing Technology Symposium Proceedings	<input type="checkbox"/>
/HN/	19	MALINIAK, D., "BGAs Make Transition to Memory Packages", Electronic Design, October 14, 1993	<input type="checkbox"/>
/HN/	20	MARKSTEIN, H., "Pad Array Improves Density", Electronic Packaging & Production, May 1992	<input type="checkbox"/>
/HN/	21	MARTIN, F., "C-5 Solder Sphere Robotic Placement Cell for Overmolded Pad Array Carrier", 1993 International Electronics Packaging (IEPS) Conference Proceedings	<input type="checkbox"/>
/HN/	22	MAWER, A., et al., "Calculation of Thermal Cycling and Application Fatigue Life of the Plastic Ball Grid Array (BGA) Package", 1993 International Electronics Packaging (IEPS) Conference, 1993	<input type="checkbox"/>
/HN/	23	O'BRIEN, K., "Will BGA Live Up to Its Billing", Surface Mount Technology, August 1993	<input type="checkbox"/>
/HN/	24	NAGARAJ, B., et al., "OMPAC Package ? Creep Analyses of C5 Solder Pads Using FEM Simulation," APDC Technical Report 15-92, 1992	<input type="checkbox"/>

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/HN/	25	TUMMALA, R., et. al., "Microelectronics packaging handbook," (1989)	<input type="checkbox"/>
/HN/	26	SOLOMON, H., "Strain-Life Behavior in 60/40 Solder", GE Report #88CRD261, 1988	<input type="checkbox"/>
/HN/	27	TRIGAS, C., "The OMPAC Package? Assembly to Printed Circuit Board", Proceedings of the 1994 EuPAC Conference, Feb 13, 1994, Essen, Germany	<input type="checkbox"/>
/HN/	28	TUCK, J., "BGAs: A Trend in the Making", Circuits Assembly, December 1993	<input type="checkbox"/>
/HN/	29	TUCK, J., "BGAs: The Next Chapter", Circuits Assembly, August 1993	<input type="checkbox"/>
/HN/	30	VARDAMAN, J., "Ball Grid Array Packaging", TechSearch International, Inc. Consulting Report, January, 1994	<input type="checkbox"/>
/HN/	31	QUIMET, S., "Overmold technology applied to Cavity Down Ultrafine Pitch PBGA Package", IEEE, 1998 Electronic Components and Technology Conference, pgs. 458-462	<input type="checkbox"/>
/HN/	32	TUMMALA, R.R., "Fundamentals of Microsystems Packaging", Georgia Institute of Technology, McGraw Hill Publishing, pgs. 599-603 No date	<input type="checkbox"/>
/HN/	33	MILES, B., et al., "The Elimination of the Popcorn Phenomenon in Overmolded Plastic Pad Array Carriers (OMPAC)", 1992 International Electronics Packaging (IEPS) Conference Proceedings, pgs. 605-614	<input type="checkbox"/>
/HN/	34	SHIMIZU, J., "Plastic Ball Grid Array Coplanarity", Proceedings of the 1993 Surface Mount International Conference, pgs. 86-91	<input type="checkbox"/>
/HN/	35	JEDEC DESIGN STANDARD, "Ball Grid Array Package", Design Requirements for Outlines of Solid State and Related Products, No. 95-1, Section 14, June 2000, Revision C	<input type="checkbox"/>

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/HN/	36	JDEC STANDARD, "Coplanarity Test for Surface-Mount Semiconductor Devices", JESD22-B108, November 1991	<input type="checkbox"/>
/HN/	37	Unimicron/UTMC, website, <a href="http://www.unimicron.com/en/about02.htm">http://www.unimicron.com/en/about02.htm</a> No date	<input type="checkbox"/>
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/HN/	39	ASE Materials, website, <a href="http://www.aseglobal.com/content/4-3.htm">http://www.aseglobal.com/content/4-3.htm</a> No date	<input type="checkbox"/>
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/HN/	41	CAPPO, F.F., et al., "Highly Manufacturable Multi-Layered Ceramic Surface Mounted Package", IEEE/CHMT '91 IEMT Symposium	<input type="checkbox"/>
/HN/	42	HASHEMI, et al., "A Mixed Solder Grid Array and Peripheral Leadless MCM Package", IEEE, 1993	<input type="checkbox"/>
/HN/	43	FREYMAN, B., et al., "Ball Grid Array (BGA): The New Standard for High I/O Surface Mount Packages", Japan Int'l. Electronics Manufacturing Technology Symposium, 1993	<input type="checkbox"/>
/HN/	44	CROWLEY, R.T., et al., "Chip-Size Packaging Developments", TechSearch International, Inc. Consulting Report, August 1995	<input type="checkbox"/>

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